

WHAT IS CLAIMED IS:

1. A method for handling miscabbling defects in a node in a resilient packet ring ("RPR") network, the method comprising:

- detecting a miscabbling defect at the node;
- setting a state of a miscabbling parameter to true in a protection state machine of the node; and
- responsive to the setting, notifying a neighboring node of a signal failure ("SF").

2. The method of claim 1 wherein the detecting is performed responsive to receipt of a packet on a first ring of the network.

3. The method of claim 2 wherein the detecting a miscabling defect at the node comprises:

determining that a time to live field in the received packet is set to maximum hops; and

determining that a ring identification field in the received packet does not identify the first ring.

4. The method of claim 2 wherein the received packet comprises a topology protection ("TP") frame.

5. The method of claim 1 wherein the notifying comprises sending a packet to the neighboring node.

6. The method of claim 1 further comprising, responsive to the setting, setting an administrative parameter to an idle state.

7. The method of claim 1 further comprising, responsive to a change of state of the miscabling parameter, setting a state of a status modification parameter to true.

8. The method of claim 7 wherein the notifying is performed responsive to the state of the status modification parameter being set to true.

9. A system for handling miscabbling defects in a node in a resilient packet ring ("RPR") network, the system comprising:

- means for detecting a miscabbling defect at the node;
- means for setting a state of a miscabbling parameter to true in a protection state machine of the node; and
- means for notifying a neighboring node of a signal failure ("SF").

10. The system of claim 9 wherein the means for detecting a miscabling defect at the node comprises:

means for determining that a time to live field in the received packet is set to maximum hops; and

means for determining that a ring identification field in a packet received on a first ring of the network does not identify the first ring.

11. The system of claim 10 wherein the received packet comprises a topology protection ("TP") frame.

12. The system of claim 9 wherein the means for notifying comprises means for generating a packet to the neighboring node.

13. The system of claim 9 further comprising means for setting an administrative parameter to an idle state responsive to the setting of a state of the miscabling parameter to true.

14. The system of claim 9 further comprising means responsive to a change of state of the miscabling parameter for setting a state of a status modification parameter to true.

15. A system for handling miscabling defects in a node in a resilient packet ring ("RPR") network, the system comprising:

logic for detecting a miscabling defect at the node;  
a protection state machine ("PSM"), wherein a state of a miscabling parameter is set to true responsive to the detecting; and

a packet generator for generating a packet to notify a neighboring node of a signal failure ("SF").

16. The system of claim 15 further comprising hardware for receiving a packet on a ring of the network.

17. The system of claim 16 wherein the logic for detecting a miscabling defect at the node comprises:

logic for determining that a time to live field in the received packet is set to maximum hops;

logic for comparing a ring identification field of the received packet with an identity of the ring; and

logic for determining a miscabling defect exists if the ring identification field does not identify the ring on which the packet was received.

18. The system of claim 17 wherein the received packet comprises a topology protection ("TP") frame.



19. The system of claim 15 wherein the packet generator comprises a topology protection frame generation state machine ("TPFGSM").

20. The system of claim 15 further comprising logic for setting an administrative parameter of the PSM to an idle state responsive to the setting of a state of the miscabling parameter to true.

21. The system of claim 15 further comprising logic responsive to a change of state of the miscabling parameter for setting a state of a status modification parameter to true.